

STATE OF ARIZONA

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Arizona Game and Fish Department

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Gary R. Hovatter, Deputy Director



Arizona Game and Fish Department Heritage Fund 2011 Report to the Arizona Legislature

Project Year July 1, 2010 to June 30, 2011

December 21, 2011

Acknowledgments

The assistance of personnel throughout the Arizona Game and Fish Department, and our external cooperators, in preparing this report and conducting the activities reported herein is gratefully acknowledged.

Civil Rights Notification

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Project Funding

Article 6. Arizona Game and Fish Commission Heritage Fund

17-296. Definitions

In this article:

1. "Public access" means providing entry to publicly held lands for recreational use where such entry is consistent with the provisions establishing those lands.
2. "Sensitive habitat" means the specific areas within the geographical area historically or currently occupied by a species or community of species in which are found those physical or biological features essential to the establishment or continued existence of the species and which may require special management, conservation or protection considerations.
3. "Endangered species" means a species or subspecies of native Arizona wildlife whose population has been reduced due to any cause whatsoever to such levels that it is in imminent danger of elimination from its range in Arizona, or has been eliminated from its range in Arizona.
4. "Threatened species" means a species or subspecies of native Arizona wildlife that, although not presently in imminent danger of being eliminated from its range in Arizona, is likely to become an endangered species in the foreseeable future.
5. "Candidate species" means a species or subspecies of native Arizona wildlife for which habitat or population threats are known or suspected but for which substantial population declines from historic levels have not been documented.

6. "Urban wildlife" means the wildlife that occurs within the limits of an incorporated area or in close proximity to an urban area that receives significant impact from human use.
7. "Environmental education" means educational programs dealing with basic ecological principles and the effects of natural and man related processes on natural and urban systems and programs to enhance public awareness of the importance of safeguarding natural resources.
8. "Habitat evaluation" means the assessment of the status, condition and ecological value of habitat and subsequent recommendations of management, conservation or other protection measures, or mitigation measures, including but not limited to, recommendation of reasonable alternatives for the proposed projects that might otherwise affect the habitat under assessment.
9. "Habitat protection" means the process of protecting the quality, diversity, abundance, and serviceability of habitats for the purposes of maintaining or recovering populations of Arizona wildlife.

17-297. Arizona Game and Fish Commission Heritage Fund

- A. The Arizona game and fish commission heritage fund is established consisting of monies deposited from the state lottery fund pursuant to section 5-522 and interest earned on those monies.
- B. The fund shall be administered by the Arizona game and fish commission and is not subject to appropriation and expenditures from the fund are not subject to outside approval notwithstanding any provision of section 17-241 or 17-261 or any other statutory provision to the contrary. Monies received pursuant to section 5-522 shall be deposited directly with the Arizona game and fish commission heritage fund. On notice from the Arizona state game and fish commission, the state treasurer shall invest and divest monies in the fund as provided by section 35-313, and monies earned from investment shall be credited to the fund.
- C. All monies in the Arizona game and fish commission heritage fund shall be spent by the Arizona game and fish commission only for the purposes and in the percentages set forth in this article. In no event shall any monies in the fund revert to the state general fund and monies in the fund are exempt from the provisions of section 35-190 relating to lapsing of appropriations.
- D. The commission shall not use its rights of eminent domain to acquire property to be paid for with money from the Arizona game and fish commission heritage fund.

17-298. Expenditures from Fund; Purpose and Amounts; Annual Report

- A. Five per cent of the monies received pursuant to section 5-522 shall be spent on public access, including maintenance and operation expenses.
- B. Sixty per cent of the monies received pursuant to section 5-522 shall be spent on the identification, inventory, acquisition, protection and management, including maintenance and operations, of sensitive habitat. At least forty per cent of the monies available under this subsection shall be spent on the acquisition of sensitive habitat utilized by endangered, threatened and candidate species. The commission may dispose of any lands

acquired for use as habitat by an endangered, threatened or candidate species under this subsection when the species no longer qualifies as an endangered, threatened or candidate species. The Arizona game and fish commission shall dispose of the land in a manner consistent with the preservation of the species of concern. The disposal may include conservation easements and fee simple transfers with associated instruments of protection. The commission shall follow the guidelines established pursuant to section 37-803 relating to the disposition of real property by a state agency. In addition, disposal shall include a written agreement between the commission and the purchaser requiring the purchaser to incorporate management actions to ensure proper maintenance of the species of concern. Management actions may include maintenance of habitat, selective control of nonnative species, maintenance of genetic viability, monitoring of populations and habitat, coordinating conservation activities, funding conservation actions and assessing conservation progress.

- C. Fifteen per cent of the monies received pursuant to section 5-522 shall be spent on habitat evaluation or habitat protection.
- D. Fifteen per cent of the monies received pursuant to section 5-522 shall be spent on urban wildlife and urban wildlife habitat programs.
- E. Five per cent of the monies received pursuant to section 5-522 shall be spent on environmental education.
- F. All monies earned as interest on monies received pursuant to section 5-522 shall be spent only in the percentages and for the purposes described in subsections A through E of this section or for costs of administering the Arizona game and fish commission heritage fund in such amounts as determined by the Arizona game and fish commission.
- G. On or before December 31 each year the commission shall submit its annual report to the president of the senate, the speaker of the house of representatives and the chairmen of the senate and house of representatives committees on natural resources and agriculture, or their successor committees. The annual report shall include information on:
 - 1. The amount of monies spent or encumbered in the fund during the preceding fiscal year and a summary of the projects, activities and expenditures relating to:
 - (a) Property acquisition.
 - (b) Identification, inventory, protection and management of sensitive habitat.
 - (c) Habitat evaluation and protection.
 - (d) Urban wildlife.
 - (e) Environmental education.
 - (f) Public access.
 - 2. The number and location of parcels of property acquired during the preceding fiscal year.
 - 3. For personal and real properties acquired with fund monies during the preceding fiscal year, the amount of property tax revenue paid to each taxing jurisdiction during the last full tax year prior to acquisition.
 - 4. The amount of money spent from the fund during the preceding fiscal year for employee personal services.
 - 5. The number of full-time employees employed in the preceding fiscal year in connection with property acquisition, including survey, appraisal and other related activities.

6. The total number of full-time employees employed in the preceding fiscal year for the programs listed in subsections A through E of this section.
7. A list of the grants awarded during the preceding fiscal year including information on the recipients, purposes and amounts.

Reporting Requirement

This Heritage Program Report to the Arizona Legislature is required under, and submitted in compliance with, Arizona Revised Statutes 17-298 (G).

Contents

Identification, Inventory, Acquisition, Protection and Management (IIAPM).....	1
Habitat Evaluation and Protection	8
Heritage Urban Wildlife	ERROR! BOOKMARK NOT DEFINED.
Heritage Environmental Education.....	12
Public Lands Access	13
Other Report Requirements	15

IDENTIFICATION, INVENTORY, ACQUISITION, PROTECTION AND MANAGEMENT (IIAPM)

Much of Arizona's natural biological diversity is composed of nongame species, wildlife that is neither hunted nor fished in a traditional sense. The Department's successful integration of these nongame species into the totality of the Department's wildlife management program is increasingly critical to Arizona's ability to manage its future without unwarranted Federal intrusion. This is especially true with regard to the burden of Federal law and regulation and resultant litigation inherent to threatened and endangered species. IIAPM focuses on wildlife or habitat that is sensitive (imperiled), including species that are federally listed as endangered or threatened.

IIAPM funds were used to support the Department's Nongame and Endangered Wildlife program and associated support programs. IIAPM funds are also used as non-federal match to receive \$1.5 million federal State Wildlife Grant funds to implement Arizona's State Wildlife Action Plan (SWAP).

Planning and Implementation of Plans

Using Heritage IIAPM funds, the Department implemented priority actions in species recovery plans, conservation agreements, management plans, and the Department's State Wildlife Action Plan (SWAP) (previously known as Comprehensive Wildlife Conservation Strategy, CWCS). The SWAP identified species that are most imperiled, and refers to those species as Arizona's *Species of Greatest Conservation Need*.

Some significant accomplishments funded, at least in part, by Heritage IIAPM during the reporting period include:

- Heritage funds have supported the ongoing development and maintenance of a Heritage Data Management System, a Geographic Information System (GIS) based system that tracks occurrence data, taxonomic information, and status information for sensitive species in Arizona. An associated Online Environmental Review Tool provides developers and planners with information on known locations and status of sensitive plant and animal species. They can use the tool for environmental and National Environmental Policy Act (NEPA) compliance, which will reduce their preconstruction expenditures and speed up the federal permitting process.
- This year's survey of the Bass House Spring documented a population of Page springsnails, a candidate for listing under the Endangered Species Act (ESA). The springsnails evidently dispersed from a nearby population. Springsnails were also found during this survey in the weir box and artificial spring run that drains the weir box. Bass House Spring has not supported springsnails since before the hatchery was purchased by the Department, decades ago. Several years ago, Heritage Funds contributed to modifications of the Bass House Spring enclosure and artificial spring run that ultimately resulted in this new population



of springsnails. These actions continue to preclude the need to list this federal candidate species.

- Department and U.S. Fish and Wildlife Service staff, along with volunteers, salvaged approximately 1,150 Three Forks springsnails (a species that has been proposed for listing under the ESA) from four springs along Boneyard Creek in June, 2011, in advance of



anticipated flooding and sedimentation following the Wallow Fire. This emergency salvage was coordinated through and recommended by the interagency Burned Area Emergency Response (BAER) team, U. S. fish and Wildlife Service (USFWS), and U. S. Forest Service (USFS). Salvaged springsnails were placed into captive holding facilities (Phoenix Zoo Conservation Center, the Department's Pinetop Office, and a

Heritage Fund researcher's residence) to ensure that genetically viable refuge populations are maintained.

- Heritage Funds have contributed significantly to recovery of the Chiricahua leopard frog. Considering just the Department's activities in the area along the Mogollon Rim, these funds contribute to a vast array of recovery activities from captive rearing to "on the ground" recovery. In the captive rearing arena, one more Department facility was brought online. So, in addition to the Bubbling Ponds Hatchery and Pinetop Regional Office, the Department added Tonto Creek Hatchery, for a total of 3 facilities that are producing thousands of frogs for release to the wild.

On the ground activities on the western Mogollon Rim have returned Chiricahua leopard frogs to sites where they have not been seen since 2005. Drought, poor watershed conditions, and non-native species have negatively impacted the frog populations in this area. Recovery efforts began in 2008 when the last remaining frogs were transferred to the Phoenix Zoo for captive rearing. In 2009, the Department, USFWS, USFS and The Phoenix Zoo staff began releasing frogs and tadpoles at historical sites in earnest. As of FY11, biologists have established four occupied sites with robust breeding



populations at two. This year, one of those sites was naturally recolonized by a small number of dispersing individuals, and supplemented with captive-bred tadpoles.

Along the Central Mogollon Rim, the Department released approximately 1400 Chiricahua leopard frog tadpoles and small frogs at five sites near Young. The Department and other familiar partners contributed to this effort (USFS, USFWS and Phoenix Zoo). Intensive projects to remove invasive exotic bullfrogs from leopard frog habitats continue to contribute to the overall recovery efforts in this area. A stone's throw from the Young recovery sites, monitoring of populations of Chiricahua leopard frogs north of Payson revealed that frogs released into 8 sites in 2008 and 2009 had persisted in all those sites, spread to three additional sites, and produced over 50 egg masses in 2011. Although this level of success has not been typical in most areas, it is encouraging and seems to show that persistent effort, and perhaps some luck and continued support from Heritage, can pay off for threatened native frogs.

- For more than 20 years, the Department has surveyed for and monitored Sonoran desert tortoises (SDT) in Arizona. With few exceptions, long-term studies on SDT have found



relatively high survival of adult tortoises and tortoise populations statewide. However, without similar information regarding juvenile tortoises, it is impossible to accurately analyze or predict long term population health. Supported by IIAPM funds, Department scientists initiated a first of its kind juvenile desert tortoise study at a site where adult tortoises have been studied since 1991. Currently, 11 juvenile tortoises are equipped with radio transmitters, allowing scientists to collect data on their growth, survival, sources of mortality, and habitat use. Knowing this

information at a site where adult tortoises have been well-studied will be useful in assessing the current and future population status of SDT throughout the state, and will contribute information critical for the proper management of the SDT population throughout Arizona.

- The Department continued to be instrumental in implementing the Flat-tailed Horned Lizard (FTHL) Conservation Agreement. This coalition of numerous state and federal agencies has been very successful in implementing conservation actions to protect the FTHL, and these actions have been the primary factor preventing the species from being listed as Threatened by the U.S. Fish and Wildlife Service. This was reinforced this year when the Service once again withdrew a court-ordered proposed rule to list the species. Heritage funded personnel also helped to design and conduct the first intensive range-wide survey of the FTHL in



Arizona. This information, including new localities for the lizards, will be used to better refine management priorities for this species and to track population trends.

- Heritage IAPM funds were used to manage the state's bald eagle conservation efforts, including the nationally recognized Arizona Bald Eagle Nestwatch Program. The Department



used IAPM funds as match for federal grants to conduct monthly bald eagle occupancy and reproductive flights from January to June with helicopter assistance from Salt River Project, Arizona Public Service and the U.S. Bureau of Reclamation. These flights, in conjunction with ground visits, helped us determine that a record 55 of the 62 breeding areas were occupied in 2011, and 34 of the 51 pairs that laid eggs were successful in fledging a record 56 nestlings. Department biologists

also discovered or confirmed one new breeding area and four new alternate nest locations. Twenty bald eagle fledglings were banded for future identification. All of these continuing efforts provided the data to allow the USFWS to remove the Arizona bald eagle from the Endangered Species List.

- Using IAPM funds as match for federal grants, the Department continues to augment Arizona's population of black-tailed prairie dogs in an effort to preclude the need to list the species under the Endangered Species Act. A third translocation area was established in the Las Cienegas National Conservation Area in southern Arizona and nearly 119 black-tailed prairie dogs were moved from New Mexico. Arizona's goal is 7,500 occupied acres which will meet the state's predetermined population size set by a multistate agreement.



- Using Heritage IAPM funds, the Department continues to: monitor the endangered Sonoran pronghorn populations in the wild using bi-weekly aerial telemetry monitoring flights, restore habitats through water catchments and irrigating forage enhancement areas, and directly



manages the population through captive breeding efforts. With the help of IIPAM funds, the total U.S. population has grown to a minimum of 100 Sonoran pronghorn from a low 21 animals before the Department intervention. The Department maintained and irrigated four forage enhancement sites that were critical to the survival of the pronghorn during this drought year. In the captive breeding pen, 25 fawns were produced bringing the total number of pronghorn in the pen to 74. In December 2010, 18 pronghorn were radio-collared

and released into the wild, and are still being monitored. The Department has also completed the required paperwork to reintroduce a second population of Sonoran pronghorn and a second breeding pen in historic habitat on Kofa National Wildlife Refuge. In December 2011, the Department will move breeding stock to the new pen.

- Heritage IIAPM funds continue to support the endangered California condor recovery efforts in 2011. IIAPM funds allowed the Department to continue to participate as a member of the Arizona Condor Field Team, the Southwest Condor Working Group, and the Condor Recovery Team. Since recovery efforts were initiated in the late 1980's, condor numbers have increased from a low of 22 birds to approximately 400 birds today. Thanks to reintroduction efforts in Arizona, over 70 condors now soar the skies of the Grand Canyon, to the delight of tourists and residents alike. Fifteen condor chicks have also hatched in the wilds of Arizona. Heritage funds enabled the Department to continue promoting its successful voluntary lead reduction program in 2011 - addressing the greatest challenge to condor recovery efforts: lead poisoning. Condor educational programs funded by IIAPM reached over 10,000 Arizona residents in 2011. Heritage funds also supported the Department's innovative free non-lead ammunition program. This voluntary program has garnered an 85-90% hunter participation rate for the past four years, serving as a wildlife conservation model for other states. Thanks to the Department's efforts, the amount of lead available to scavenging condors has been significantly reduced in Arizona. Participating hunters either use non-lead ammunition or remove their entire game carcass from the field. This program has not only been overwhelming supported by the hunting community, but has also been well received by the general public. Condor recovery efforts have no doubt benefited from this program.



- The Department used Heritage IIAPM funds to monitor the recovery of endangered black-footed ferrets (BFFs) in the Aubrey Valley. During the spring, summer and fall spotlighting efforts for 2011, the crew captured 115 individual BFFs, 22 of these were captured in a single night, establishing new records for the project. Ninety of these ferrets were brand new individuals that have never been captured before. The Department was also given an allocation of 21 captive black-footed ferrets to be released onto the Aubrey Valley to commemorate the 15th anniversary of the Aubrey Valley site and the 30th anniversary of the rediscovery of the last remnant population of BFFs at Meeteetse, Wyoming. This gives us a minimum population of 136 BFFs in Aubrey Valley. The Department is averaging around 100 volunteers for the spotlighting events. Our spotlighting event in the fall of 2010 brought our minimum number alive to 96 which exceeds Arizona's objective of 74 animals to down-list the black-footed ferret. All states with black-footed ferret populations are given state-specific recovery guidelines that lead to a



larger national recovery effort. The national recovery guidelines must be met before down-listing the species can be considered. Arizona's target for delisting is 148 animals. The Department's current numbers for 2011 exceed the state's objective and put us closer to our delisting objective.

Public and Private Lands: Sensitive Habitats (Heritage IIAPM Stewardships)

The focus of the Identification, Inventory, Acquisition, Protection and Management (IIAPM) program is also to work cooperatively with private landowners to accomplish projects that benefit sensitive habitat and at-risk species. Every effort is made to match these state funds against federal programs in order to expand the scope and impact of these projects.

The Sensitive Habitats Project works to improve the status of wildlife with particular emphasis on those species listed as Species of Greatest Conservation Need in the Department's Comprehensive Wildlife Conservation Strategies Plan and restore sensitive habitats for species at-risk. The Department solicited voluntary cooperation from property owners and lessees of public lands in striving to accomplish wildlife habitat objectives.

The Department worked with Landowners to complete 5 new habitat agreements, of which two were focused to directly benefit a Threatened or Endangered species (Mexican Grey Wolf and desert pupfish). In regards to utilizing these funds as match to federal programs, all 5 of the agreements matched Department funds to outside sources bring in a total of \$370,000 in non-department funding. Additionally, the Department secured \$520,000 in federal stimulus funding to complete 6 additional projects that benefit Species of Greatest Conservation Need, where no Department funds other than staff time were utilized on these projects. These 6 projects were all also matched with additional funding from landowners, the Natural Resources Conservation Services (NRCS), and the AZ Department of Agriculture totaling \$1,111,500.

Examples of Successful Projects:

Black Canyon City Pond Project: The Department helped provide funding to a non-profit organization that owns the water rights for a pond on a property located along the Agua Fria River. With the cooperation of several agencies including the Bureau of Land Management (BLM), National Park Service, AZ Department of Water Resources and the landowners themselves, these ponds have been restored into refugia pond for desert pupfish and Gila topminnow. Both these species are endangered species and these refugia ponds will be used by the Department for future repatriation efforts. The Department contributed \$15,000 towards this project, and the funding was matched by \$355,000 in funding from other state and federal agencies.

Turley Project: This project was a project that restored 640 acres of grassland invaded by juniper to improve habitat for several grassland birds like Ferruginous Hawks and Golden Eagles as well as create a corridor connecting 2 large grassland restoration projects adjacent to this project. This corridor was critical for the pronghorn in the area. The other part of this project was to provide a reliable water source for pronghorn using the Turley Ranch. This water will be available on a year round basis using solar equipment to ensure water is always available.

Other Accomplishments

The Department worked with landowners to complete six new habitat agreements, of which two were focused on directly benefitting species that are federally listed as endangered or threatened. Some examples include:

- Babocomari Ranch riparian fencing project: This collaboration between the Department, the Natural Resources Conservation Service (NRCS) and the landowner constructed a fence to protect more than 250 acres of riparian habitat and three miles of perennial streams on the Babocomari River from overuse by cattle. IIAPM funds were matched with \$33,216 in NRCS funding and \$23,216 from the landowner. This project will provide habitat to several native fish species, including Gila topminnow and species that are listed as Species of Greatest Conservation Need.
- Davis Ranch grassland restoration: This collaborative effort between the Department, NRCS and the landowner is to reclaim more than 630 acres of grassland invaded by mesquite, benefitting several species that depend on grassland habitat. Department funds were matched with more than \$26,800 in federal funds and \$1,000 from the landowner.
- Marks Ranch wolf project: In a collaborative effort to reduce conflicts between wolves and cattle, the Department provided IIAPM funding to the landowner to purchase forage to keep cattle in a safe pasture during calving season, and protect wolves from harm and harassment. IIAPM funds were matched with \$11,000 from the Mexican Wolf Conservation fund and \$15,000 from the landowner.

Property Acquisition

By statute, Heritage acquisition funds may be used only for qualifying property acquisitions. In March, 2011, Heritage Acquisition funds were used to help purchase the Horseshoe Ranch property.

Horseshoe Ranch is a 198.8 acre property nestled in the Agua Fria National Monument (AFNM). The property includes Sonoran desert scrub and semi-desert grassland habitats, and an approximately half mile reach of riparian habitat along the Agua Fria River. The National Audubon Society has designated the AFNM as an Important Bird Area (IBA).

There have been 130 bird species documented on the IBA since 2006, including 28 species of special conservation status (13 of which breed on site). One of those breeding birds is the Western Yellow-billed Cuckoo, a candidate for listing under the ESA. Horseshoe Ranch and the adjacent river will provide important conservation opportunities to contribute to recovery of Gila chub, Gila topminnow, desert pupfish, and



spikedace, all of which are listed under the ESA. Funding for the purchase was matched with a \$1 million, Section 6 Recovery Land Acquisition Grant from the U.S. Fish and Wildlife Service.

In fiscal year 2011, the Department spent a total of \$1,651,156 and encumbered an additional \$4,225,000 in Heritage Acquisition funds.

- Purchase of Horseshoe Ranch and associated due diligence
- Escrow for the Triangle Bar Ranch and associated due diligence
- Hydrological Services for Planet Ranch

For personal and real properties acquired with fund monies during the preceding fiscal year, the amount of property tax revenue paid to each taxing jurisdiction during the last full tax year prior to acquisition was: Horseshoe Ranch, \$3,060

HABITAT EVALUATION AND PROTECTION

The Department used Heritage Habitat Evaluation and Protection funds to work with government and private entities on habitat projects, land and resource planning issues. Heritage funds were also used as match for federal dollars received in fiscal year 2011 and enabled the Department to support critical activities such as:

- Department personnel developed and approved new Aquatic Invasive Species (AIS) Directors Orders for 2011.
- Department personnel developed, administered, and sought ultimate approval for Arizona's Aquatic Invasive Species Management Plan - 2011.
- Department personnel developed and administered internal training on AIS abatement and LE capacities.
- Two renewal agreements on Commission owned properties were either renewed or newly executed by Department personnel.
- Over 50 requests were filled by Department personnel providing occurrence and status information to others for incorporation into land and resource management planning efforts for large-scale projects.
- During fiscal year 2011, 567 new records were entered into and 426 records were updated within the Department's Heritage Data Management System (HDMS) by Department personnel.
- The Department developed a GIS Framework document (2010 Director's Goals & Objectives) to guide the implementation of the Department's GIS Strategic Plan (Total Quality Team report, January 2010).
- A 2-day GIS Enterprise Architecture discovery workshop was held in January 2011 for the Department's core GIS and IT personnel. The workshop established a necessary and

close relationship between the GIS Program – with its research & development emphasis – and the Information Service Branch – with its IT deployment & operations emphasis.

- Department personnel guided the development of a Department-wide geospatial data, metadata, and storage standard (Geospatial Standards document, April 2010).
- The Department implemented an intranet GIS work order system to more efficiently and transparently manage internal and external GIS requests.
- The Department created an intranet GIS knowledgebase and tested online professional community building tools (group email lists, corporate social networking, etc.) to be implemented in the next phase.
- The Department invested into an upgrade to the GIS Enterprise Architecture that meets the Department's needs for the next 5 years:
 - Added a 13 terabyte, high speed, high availability, and redundant data pack to the Department's Storage Attached Network
 - Added VMware virtual machine and management licenses to the Department's virtual environment
 - Trained 3 GIS staff in the .Net C# programming language
 - Trained 1 GIS staff in MS SQL Server administration
- The GIS Program also supported the Department by providing maps, analyses, and GIS-related support, such as troubleshooting technical issues, providing guidance on the purchase of GIS and GPS equipment, and providing assistance with individual GIS projects. An example of these projects includes leading the inter- and intra-agency wildlife connectivity assessment, which involves participation from partners such as Arizona Department of Transportation, U. S. Department of Transportation's Federal Highways Administration, USFWS, USFS, BLM, and many more national, state, and local agencies and non-governmental organizations.
- Department personnel provided technical guidance on 191 projects via the Department's Environmental Assessment Checklist process to ensure that Arizona Game and Fish activities comply with federal and state laws or other environmental legislation.
- The Department's Project Evaluation Program (PEP) received and reviewed over 1,230 evaluation requests/correspondence. Of the 1230 documents received, 403 warranted further evaluation/review and received additional comment and/or recommendations.
- Department personnel also assisted in the development of a web-based wildlife data viewer (HabiMap™ Arizona) that includes the Species and Habitat Conservation Guide. This web-based program identifies wildlife conservation potential to help guide project planning in the early stages to avoid and offset negative impacts to wildlife.

HERITAGE URBAN WILDLIFE

To minimize human-wildlife interaction and conflicts in urban areas, Heritage Urban funds are used to respond to and help remediate human-wildlife conflicts in urban areas through customer service, partnerships with local governments, and educational programs and activities. The funds are used to manage wildlife in incorporated areas or areas close to incorporated urban centers, to include wildlife management and the enforcement of wildlife laws in urban areas.

The Department publicized locally, regionally and nationally the February sighting and documentation of an ocelot in the Huachuca Mountains. The Region similarly publicized a subsequent sighting and incorporated information from both into Regional public displays.

The Department also prepared and presented a power point presentation to a group of volunteers on minimizing conflicts with mountain lions, bobcats, coyotes, and javelina. This was part of a cooperative effort between Pima County Natural Resources, Parks and Recreation (NRPR) and the Department to train volunteers to give community presentations on Living with Urban Wildlife and be able to staff a newly developed trailer (Heritage grant) with hands-on materials geared towards the same subject. See attached photo of the trailer developed by the NRPR Environmental Education staff as part of a Heritage grant.



Public Outreach for Living with Wildlife: Department personnel conducted seven large public meetings at local homeowners' associations. This resulted in 358 participants being provided awareness and education on how to live with Arizona's wildlife and to reduce conflicts between humans and wildlife.

Human-Wildlife Conflicts: Department personnel responded and/or handled over 600 human-wildlife conflict calls throughout Arizona over the last year. Most callers were given information on identifying what is attracting wildlife to their home or neighborhood and then given proven self-help tips and methods to reduce or eliminate these conflicts.

The Department also conducted in-depth wildlife-viewing programs for the public throughout Arizona on a variety of subjects, to include:

- Bald eagles, migratory birds, elk and Mexican wolves in the communities of Pinetop-Lakeside (150 participants).
- Five bat-watching workshops were conducted in central Phoenix (more than 600 participants).

- Bighorn sheep. One workshop was held in cooperation with the Steamboat Dolly at Canyon Lake (75 participants). Two additional desert bighorn sheep workshops were held in Kingman (90 participants).
- Two black-footed ferret spotlighting events and an eight-part series of summer wildlife presentations in Kingman.
- Verde Valley Birding and Nature Festival – Participation in event and on committee (600 participants in 2011)
- Public Lands Day, Colorado River Nature Center (GF Property), 100 participants
- Earth Day, Prescott, booth/educational effort
- Kids’ Day, Kingman Regional Medical Center, 500 participants
- Home-schooled class, Black-footed Ferrets, conducted by Eric Proctor and Ferret Crew
- National Trails Day and Mount Tipton Career Night, Dolan Springs, 50 participants
- Summer Wildlife Series (May-August, 8 total presentations). Averaged 46 participants per presentation
- Master Gardener’s, Urban Wildlife Presentation, 35 participants, Prescott
- Wildlife Fair, 400 participants attended, Mohave High School, Bullhead City
- Legislative Day, Phoenix, regional booth focus on ferrets and bighorn sheep
- Yavapai College Career Day, Prescott (yet to hear from them this year, but usually an annual event)
- Black-footed ferret 30th anniversary effort at Phoenix Zoo (for media and dignitaries)

In addition, Heritage Urban funds were used to support the following efforts that enhance wildlife awareness and outdoor recreational opportunities for the Citizen’s of Arizona:

- Tres Rios Nature and Earth Festival: Department personnel have had a lead role in this annual event for the last 7 years. This festival celebrates the rich cultural and wildlife diversity of the “Three Rivers” area in the Southwest Valley. This two-day, family friendly event provides many activities, including bird watching, beginning archery and air-rifle, fishing clinics, canoeing, nature hikes and a chance to view live wildlife and talk with the experts on outdoor-related topics, wildlife, recycling, and “green” friendly concepts.
- Legends of Superior Trails (LOST): Coordination and planning efforts between many partners (Town of Superior, Tonto National Forest, Resolution Copper and the Department) have resulted in the first two segments of the LOST being opened for public use. The LOST serves as a connector trail from the Arizona Trail to the Town of Superior as well as providing historical interpretive sites and wildlife viewing opportunities. The goal of the LOST development is to spur economic development by making the Town of Superior an “ecotourism” destination.
- City of Scottsdale:
 - Department personnel provided biological guidance to the Scottsdale Parks and Recreation Department to create a “No-Feed” wildlife ordinance within the cities’ parks. Based primarily on waterfowl feeding issues and Canada goose overpopulation at several parks, Parks and Recreation Staff are going before their Commission to change a city ordinance to make feeding wildlife illegal within park boundaries.

- Department personnel worked with the Scottsdale Preserve to provide oversight, inventory and recommendations to create and/or enhance wildlife movement corridors between large tracts of open Preserve. Department personnel coordinated efforts to assist the City of Scottsdale to identify wildlife movement corridors and to survey and monitor wildlife populations within the Preserve.
- First annual Lunchtime Speaker Series hosted in Flagstaff, January through May, 2011
 - Topics included: bald eagles, condors, crows/ravens, OHV, Fish, reptiles and amphibians with over 170 participants
 - Free lunch sponsored by Flagstaff Sunrise Lions Club for the last talk
 - 2011/2012 series planned for Nov-June
- Annual Elk Workshop hosted at Mormon Lake Lodge-Kachina Room, 160 participants
- Outdoor Festival- June 4, 2011, Co-hosted at Mormon Lake Lodge, over 500 attendees
 - Activities included: G&F information/welcome booth, fishing clinics, archery shooting, live animals from Adobe Mountain, dutch oven cooking demonstrations, several government/non-profit/organizations booths and displays.
- Coconino County Fair Booth- Sept. 2-5, Labor Day Weekend- 4 days
 - Booth included: department information, bone box activities for kids, live animals from Adobe Mountain, archery workshops, watchable wildlife project information, online license sales
 - Visitation: 5,800 information area- 1,110 archery workshops
 - Staff included: Department personnel from Flagstaff, Page Springs and Silver Spring hatchery, hunter education volunteers, members from RMEF and AWF
- Hummingbird Festival- June 25, 2011, Co-hosted at Flagstaff Arboretum- 2nd year
 - Department personnel hosted a booth during event with over 400 participants
 - Activities included: guest speakers, displays, booths, tours through arboretum, presentations with live animals from Adobe Mountain

HERITAGE ENVIRONMENTAL EDUCATION

The Department also conducted extensive public outreach at numerous fairs and festivals statewide to educate the public about Arizona's wildlife. Wildlife education and outreach opportunities accomplished during the reporting period included:

- Traditional Educational Programs – 10,525 K-12 grade students received instruction through formal wildlife education programs to include:
 - “Life of a Saguaro” live animal presentation-500 kindergarten through second grade students
 - Fourth grade Animal Adaptations program- 9,900 students, 308 classrooms, and 92 schools
 - Deer Valley elementary school summer camp- 80 students.

- Canon Envirothon- 45 high school students
- Homeschooled Field Programs – 225 students and their families participated in: crayfish removals, non-native turtle trapping, digital photography workshops, geocaching, and butterfly tagging.
- Professional Development – Over 1750 teachers had the opportunity to learn about available educational resources at numerous fairs and workshops around the State.

Technology Based Learning Programs:

- Focus Wild Arizona website- 23,000 visitors.
- “America’s Wildlife: Yesterday, Today and Tomorrow” curriculum- downloaded by over 130 educators, potentially reaching 51,000 students.
- Geocaching- 400 people visited 21 Department properties to search for a geocache.
- Digital Photo Workshop- 100 educators, interpreters, and students

General Public Wildlife Presentations:

- Adobe Mountain Wildlife Center wildlife outreach presentations reached approximately 100,000 people
 - Nature and birding Festivals- 6,600 participants (Wings Over Willcox, Tres Rios Nature and Earth Festival, Yuma Birding and Nature Festival, Verde Valley Birding and Nature Festival, Payson Wildlife Fair, Sipe Fall into the Wild, Freeman Farms, Kartchner Cavern Cave Fest)
 - Adobe Mountain Wildlife Center Open House- over 3,000 participants
 - Special needs summer camps- 150 campers (Camp Hope for Disabled Adults, Camp Courage For Burns and Trauma)
 - New volunteer training and orientation- 100 volunteers

HERITAGE PUBLIC ACCESS

The Landowner Relations Program.

The Landowner Relations Program oversees the Department’s recreational access efforts by which the Department collaboratively enhances opportunities for the public to enjoy wildlife by identifying lands and waters that are closed to the public or that do not have sufficient access and work with all interested parties to meet recreation and other access needs.

Fiscal year 2011 was a very successful year with a number of significant accomplishments. The Department completed nine recreational stewardship agreements with private landowners, in which four of them utilized Department funds to match against external funds totaling \$187,000. One of these projects was a perpetual easement that opened up nearly 20,000 acres of public and state lands. In addition the Respect program worked with approximately 300 landowners statewide and the Department assisted with 24 Adopt-A-Ranch events which included 667 volunteers totaling 6,608 volunteer hours. Using a value of \$21.69 per hour, this represents \$143,327.52 in volunteer match for projects that secure access.

Examples of Successful Projects:

Babbitt Ranches Access Extension: The Department provided \$20,000 towards this project in exchange for unlimited recreational access to three ranches in northern Arizona. This agreement ensured unlimited recreational access to nearly 1,500,000 acres of land that could have been closed due to scattered private land holdings throughout the ranch. This funding was matched by \$120,000 in landowner cash to clean out tanks and install drinkers and pipeline which will improve water availability for wildlife on over 500,000 acres of rangeland.

M-Diamond Ranch: The Department provided \$43,000 towards this project in exchange for five years of road access through deeded land of the M-Diamond Ranch to USFS land that had previously been very difficult to get to. Road improvements on another part of the ranch allotment were also done making access into the Wikiup Creek area of game management unit 6A easier for hunters and recreationist.

Brown Canyon Road Easement: The Department worked on complex project that secured access through private land that is required for public access to BLM and State Trust Lands. In addition to the BLM and State Trust Lands, during the course of this project the Department, while working with the USFWS, received documentation that several roads on the San Bernardino Wildlife Refuge are in fact public roads and not administrative roads, which helped secure more public access. In total, the project secured access to over 20,000 acres of landlocked public and State Lands at a cost of \$20,000 for all the future generations of Arizonans. **Actual Costs: State - \$277,079.53**



During the spring and summer of 2011, Arizona again experienced several large wildfires occurring across a variety of landscapes and habitat types which significantly impacted public access. Three of these mega-fires – Horseshoe II, Wallow and Monument – accounted for almost 800,000 acres being impacted. Having experience from previous mega-fires, such as the 2002 Rodeo-Chediski Fire, Department personnel quickly partnered with various National Forest public affairs staff to develop joint communication teams and strategies to present timely, key messages and fire status updates to a variety of publics ranging from the general public and wildlife and outdoor recreationists to Congressional staff. Department personnel developed web pages

and Facebook pages, updated at least weekly, to inform the public and wildlife recreationists of the status of wildlife and habitats impacted by the fires and to present current and evolving access information and maps into areas impacted by the fires, issued news releases, and authored magazine articles. Department personnel also gave numerous media interviews and public group presentations on the effects of these wildfires on wildlife.

OTHER REPORT REQUIREMENTS

The Department received \$10 million from lottery revenues for Heritage Fund programs and expenditures totaled approximately \$9.8 million in 2011. The following information represents Department expenditures in fiscal year 2011:

- Heritage Funds Spent for:

(a) Property acquisition	\$4,279,267
(b) Identification, inventory, protection and management of sensitive habitat	\$2,657,200
(c) Habitat evaluation and protection	\$123,982
(d) Urban wildlife	\$1,181,144
(e) Environmental education	\$395,567
(f) Public access	\$376,157
- Spent \$3,755,518 for employee personnel services and \$1,224,948 for employee-related expenses.
- Employed 61 full-time employees for all of the Heritage-funded programs to include 12 Department administrative positions.
- Three employees charged time to Heritage funds, when involved with Heritage funded property acquisition. However, these employees also charge other non-Heritage fund sources.
- \$140,400 was the total legislatively transferred from the Heritage Fund in FY 2011

The Arizona Game and Fish Department did not award Heritage Fund grants in fiscal year 2011. However, the Department announced for solicitation and received 97 grant application proposals and anticipates award of over 20 Heritage funded grants in fiscal year 2012.